In the claims:

Claim 1 (currently amended): A system for pumping slurry from a slurry source to a slurry output, said system comprising:

a peristaltic pump having an inlet and an outlet;

a de-ionized water source supplying pure water to the peristaltic pump;

a slurry supply line communicating with the inlet of the pump;

a slurry output line in fluid communication with the outlet of the pump, wherein said output line provides slurry to the slurry output;

a pressure sensor, operably connected to the slurry supply line, for sensing ~~the~~ an inlet pressure in the supply line; and

a controller operatively connected to the pump and the pressure sensor, said controller being programmed to receive input regarding the inlet pressure sensed by the pressure sensor, to accept input regarding ~~the~~ a desired flow rate, and to calculate ~~the~~ a pump speed required to provide the desired flow rate based on the inlet pressure in the supply line, and maintain the pump speed at the calculated pump speed.

Claim 2 (currently amended): The ~~device~~ system of claim 1 wherein the pressure sensor is a non-intrusive pressure sensor which senses pressure in the slurry supply line without placing any structure in the slurry flow.

Claim 3 (currently amended): The ~~device~~ system of claim 1 wherein the controller is programmed to calculate the pump speed required to provide the desired ~~output~~ flow rate based on ~~the~~ an equation

$RPM = M \times$ Flow rate, where RPM is the pump speed, M is ~~the~~ a pump speed proportionality constant.

Claim 4 (currently amended): The ~~device~~ system of claim 3 wherein the pump speed proportionality constant M is calculated based on ~~the~~ an equation $M = slope(\text{inlet pressure}) + c$, where the value of the slope and c in the equation are empirically determined through testing of the system.

Claim 5 (currently amended): A method for pumping slurry comprising:

pumping ~~the~~ a slurry from a slurry source through a supply line to a slurry output using a peristaltic pump;

supplying de-ionized water from a de-ionized water source;

sensing ~~the~~ an inlet pressure in the supply line;

determining a desired flow rate of slurry;

calculating a pump speed required to provide the desired flow rate based on the inlet pressure in the supply line; and

operating the pump at the calculated pump speed.

Claim 6 (currently amended): The method of claim 5 wherein the calculating step calculates ~~the~~ a pump speed required to provide the desired flow rate based on ~~the~~ an equation $RPM = M \times$ Flow rate, where RPM is the pump speed, M is ~~the~~ a pump speed proportionality constant.

Claim 7 (currently amended): The method of claim 6 wherein the pump speed proportionality constant M is calculated based on ~~the~~ an equation $M = slope(\text{inlet pressure}) + c$, where the value of the slope and c in the equation are empirically determined through testing ~~of the system~~.

Claim 8 (cancelled)

Claim 9 (cancelled)

Claim 10 (cancelled)